

like, within the chasm, or hovering on winnowing wings about it. The innumerable rabbits which frequent this part of the forest are probably a considerable attraction to these birds. Water-break - its - neck is after all but a little affair, though striking from its peculiarity; the looking down — for the traveller can only see it to advantage from the top — on rocks and trees, and the backs of the hawks and other birds as they float across, is pleasing from its novelty.

Approaching Kington, Stanner Cliff, to the left, is a much finer object. The Insect-Hunter has never seen a better instance of the beautiful effect of intermingled trees and rocks. It is isolated and unconnected in character with the surrounding scenery. It derives no beauty from any thing but itself, and alone is perfect. It would make a most lovely picture, but is a subject that a painter would never choose. It has no foreground, no distance,—it is in itself the picture. At Kington the Insect-Hunter entered England, and the same evening reached Leominster. At that town he has spent many happy days, and its natural history has claimed his particular attention; but whether he detail the result of that attention, or pass on in his narrative to other scenes, remains for chance and time to determine.

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ART. XXVII.—*Essay on Parasitic Hymenoptera,*

By A. H. HALIDAY, M. A.

(Continued from p. 106.)

GEN. XI.—OPIUS.

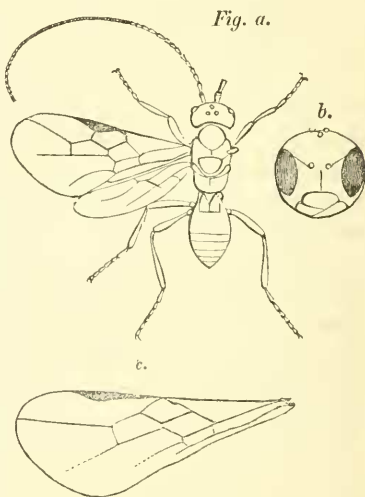
*Palpi maxillares 6-articulati. Mandibulæ forcipatæ, clypeo contiguae vel rima transversa distantes. Occiput retusum immarginatum. Abdominis segmentum 2 cum 3 concretum, reliqua discreta. Alarum anticarum areola disci antica remota, cubitales tres. Posticæ nervo recurrente disci auctæ in plerisque.*

Subgen. I.—OPIUS.

*Palpi labiales 4-articulati. Terebra linearis. Areola cubitalis 2 longior quam latior.*

- Opius . . . . . *Wesm. Monogr. Bracon. Belg.* 115.  
G. IX.
- \*Bracon, Fam. I. Heterocl. I. *N. ab E. Berl. Mag.* V. 15.  
—— Sectio III. . . . . ———— *Act. Acad.* IX. 303.  
—— ———— *Monogr.* I. 52.
- Gnamptodon . . . . . *A. H. H. Ent. Mag.* I. 265.

Characteres generici a Wesmaelio jam optime determinat sunt: paucula tantummodo pro regula nostra animadvertenda erunt: labrum transversum fere semicirculare, epipharyngis ligula apicali brevissima obtusa prostante: palpi maxillares longitudine varii, articulis 2 interioribus minimis: labialium articulus basalis plerumque brevior est, reliqui subæquales: occiput ut in *Alysiis* retusum, superne cum vertice sensim collabatur: abdominis segmenta septem tantum integra apparent, e quibus 2 maximum, quippe e duobus conflatum, quorum juncturam stria subtilissima raro prodit.



*Opii* statura universa alisque non obscure referunt *Alysiis*. Cum *Rogadibus* ex adverso mediante subgenere *Colaste* facile concurrunt. Typum genericum præstabunt *O. carbonarius* atque proxime affines.

Specierum descriptiones in Monographia Braconidarum Belgicorum Cim. Wesmaelii, plene et accurate quantum fieri poterat expressas hic iterum perscribere nolui. Illas tantum ex integro illustrandas mihi delexi, quæ vel hactenus ineditæ videbantur, vel in multitudine aucta discrimina quædam adjecta posebant.

A. *Cubitus e basi stigmatis exortus.* (Fig. c.)

Sp. 1. *O. abnormis.* *Niger*, antennarum basi ore pedibus abdomineque longe petiolato testaceis, fem. terebra exerta brevissima. (Long. 1—1 $\frac{1}{4}$  lin.)

O. abnormis. *Wesm. Monogr.* 117. No. I.

*Habitat* in Hibernia boreali mihi semel lectus *fem.*: marem ex Anglia (prope Vindisoram Junio mense lectum) transmisit *F. Walker.*

AA. *Cubitus a stigmatate exceptus.*

B. *Areolæ cubitalis* 2<sup>dæ</sup>. *limes anterior interiore longior.*

C. *Pleuræ læves, aut sulco medio impunctato.*

D. *Nervus recurrens erectus in areolam cubitalem* 2<sup>dam</sup>.

E. *Mesothoracis dorsum lævissimum.*

F. *Os patulum i.e. mandibulæ a clypeo distantes.*<sup>a</sup>

Sp. 2. O. *Pygmæator. Niger, mandibulis testaceis, palpis breviusculis pedibusque piceis, femoribus auticis et tibiærum basi dilutiis, fem. terebra*  $\frac{1}{2}$ — $\frac{2}{3}$  *abdominis longitudine. (Long. 1 lin.)*

\**Bracon pygmeator N. ab. E. Berl. Mag.* V. 15. No. 19.

*Id. id. N. ab. E. Monogr.* 52. No. 6.

*Opius funebris. Wesm. Monogr.* 124. No. 8.

*Habitat* in nemoribus Angliæ et Hiberniæ passim sat frequens.

Sp. 3. O. *pendulus. Niger, palpis elongatis et mandibulis testaceis, pedibus piceis, femorum plaga laterali et tibiærum basi dilutiis, fem. terebra*  $\frac{1}{2}$  *abdominis longitudine. (Long. 1 lin.)*

*Statura O. instabilis.* Antennæ corpore breviores 19-articulatæ nigrae: clypeus fuscus: mandibulæ testaceæ, basi dilatatae et subtus excisæ: palpi longissimi testacei basi fusci: metathorax nitidus sublævis: abdominis segmentum 1 subtiliter rimulosum at subnitidum: pedes fusco-testacei, coxis nigris, trochanteribus femorum margine supero et infero tibiis apice tarsisque fusco-piceis: alæ hyalinæ, squamulis piceis, stigmatate nervisque fuscis: cubiti abscissa 1 e stigmatate breviter extricata, quæ speciei præcedenti subnulla: præterea areola radialis minùs effusa, cubitalis 2 longior et alæ posteriores latiores existunt.

*Habitat* Hiberniam borealem rarissime.—*Marem feminamque prope Londinum inventos misit, F. Walker.*

<sup>a</sup> *Conferendus Rogas funestus, ante, p. 93, No. 20.*

Sp. 4. *O. lugens*. *Niger*, *mandibulis testaceis, pedibus piceis, femoribus anticis tibiis tarsisque dilutius, fem. terebra subexerta*. (Long.  $\frac{3}{4}$  lin.)

*Niger nitidissimus*: antennæ corporis longitudine, 21—23-articulatæ; metathorax lævissimus: abdomen suborbiculatum, segmento 1 gracili obconico-attenuato lævissimo: palpi pedesque fusco-testacei, coxæ nigræ, femora basi, posteriora fere tota, tibiæ posticæ, tarsique apice fusco picei: alæ hyalinæ, stigmatate nervisque fuscis: areola radialis alæ apicem non attingit: præterea stigma paulo latius et areola cubitalis 2 brevior apice attenuata a sequente distinguent: nervi recurrentis vestigium in alis posticis.

*Habitat* Angliam, Hiberniam, Ebudes insulas, at infrequens.

Sp. 5. *O. apiculator*. *Niger, ore pedibusque testaceis, tibiis posticis apice fuscis, fem. terebra exerta brevissima*. (Long.  $\frac{3}{4}$  lin.)

\**Bracon apiculator*. *N. ab. E. Monogr.* 56. No. 10.

*Opius levis*. . . *Wesm. Monogr.* 122. No. 5.

A præcedente discrepat, præter alas et pedum colores, abdominis segmento 1 sublineari nitidiusculo quidem at subtilissime rimuloso: exemplaria *varietatis, mas* plerunque majora et stigma paulo crassius videtur: discrepant hæc ab *O. spreto* coloribus, statura minore, antennis pauci-articulatis et cubiti abscissâ extimâ subrectâ, quæ in illo lenissime reflexa seu postice concava extat.

*Var. β.*—Abdominis segmento 2 basi pallide piceo.

*Var. γ.*—Coxis et femoribus posticis superne fuscis.

*Var. δ.*—Antennarum scapo pedibusque totis testaceis.

*Opius exiguus*. *Wesm. Monogr.* No. 123. No. 6.?

*Habitat* in nemoribus Angliæ, Hiberniæ passim frequens.

Sp. 6. *O. clarus*. *Niger, antennarum scapo ore pedibus abdominisque segmento 2 antice rufis, terebra subexerta, fem.* (Long. 1 lin.)

Antennæ corpore longiores, articulis 34, binis interioribus rufis: mandibulæ basi subtus excisæ et clypeus rufi: metathorax lateribus rugulosus medio lævigatus: abdominis segmentum 1 oblongum rugulosum, 2 rufum apice determinate nigrum, sequentia nigra: pedes rufi, coxis anticis testaceis: alæ hyalinæ, squamulis rufis, nervis fuscis: stigma dilutiûs fuscum, lineari-lanceolatum angustum, intra primam trientem cubitum excipiens: areola

radialis in alæ apicem fere effusa, cubitalis 2 apice parum attenuata: alæ posticæ nervi recurrentis vestigio.

Sp. 7. *O. spretus*. *Niger, antennarum scapo ore abdominisque segmento 2 antice testaceis, pedibus flavo-testaceis, fem. terebra subexerta.* (Long. 1 lin.)

Præcedentis statura, sculptura alæque; colores tantum nonnil diversi: antennæ 31—34-articulatæ; articuli 2 priores, clypeus, mandibulæ testacei: palpi pedesque pallidiores; tibiæ posticæ apice subtus obscuriores, tarsi iidem fuscescentes: abdominis segmentum 2 basi sordide testaceum, utrinque obsolete foveolatum, apice fuscum: venter pallidus.

*Habitat* in Hibernia boreali lectus Octobre ineunte,—etiam prope Senani ripas,—*marem ex Anglia misit F. Walker.*

Sp. 8. *O. victus*. *Niger, antennarum basi late ore pedibusque flavo-testaceis, tibiis posticis apice fuscis, stigmatate longo lineari, terebra exerta brevissima, fem.* (Long.  $\frac{3}{4}$  —1 lin.)

Antennæ *feminæ* corpore fere sesquilingiores, articulis 31—34, interioribus testaceis, exterioribus fuscis: facies obsolete carinata: mandibulæ et clypeus testacei: palpi longi pallidiores: metathorax et abdominis segmentum 1 punctato-rugulosa subnitida, hoc sublineare, 2 basi utrinque foveolatum, fusco-testaceum: pedes flavo-testacei, tibiæ posticæ apice fuscae, tarsi iidem concolores pallidiûs annulati: alæ longæ hyalinæ, squamulis testaceis, nervis stigmatateque fuscis: stigma tenuissimum lineare, cubitum prope basin excipit: areola radialis alæ apicem attingit, cubitalis 2 elongata extimam æquiparans, apice nusquam attenuata: postica disci clausa: nervi recurrentis vestigium in alis posticis.

*Obs.*—*O. anali* non dissimilis, sed os patulum, cubitus propior a basi stigmatis abscissâ primâ brevior, et areola cubitalis 2 multo longior.

*Habitat* prope ripas Senani autumno lectus rarissime.

FF. *Os clausum* i. e. *Mandibulæ clypeo contiguæ.*

Sp. 9. *O. tacitus*. *Niger, antennarum basi late ore pedibusque testaceis, abdominis segmento 2 antice rufis, mas.* (Long. 1 lin.)

*Bracon orbicular.* *N. ab. E. Berl. Mag. V. Tab. I. Fig. 2.?*

Antennæ corpore fere sesquilingiores, 30-articulatæ, articuli longiores quam *O. spreto*, interiores late rufescent: facies subcarinata:

clypeus et mandibulæ testaceæ: pleuræ stria media impunctata metathorax et abdominis segmentum 1 rugulosa: alæ hyalinæ, squamulis testaceis, nervis fuscis, stigmatate dilutius fusco aut fusco-testaceo, lineari lanceolato: areola cubitalis 2 apice attenuata, brevior quam *O. spreto*: nervi recurrentis vestigium in alis posticis.

*Var. β?* minor; antennæ basi fuscæ, articulis 2 interioribus testaceis: pedes pallidiûs testacei: abdominis segmentum 2 fuscum: terebra exerta brevis: alarum stigma angustius. (Long.  $\frac{5}{4}$  lin.)

*Habitat* Hiberniam borealem rarissime, prioribus olim commixtus; exemplar genuinum prope Londinum lectum exhibuit *F. Walker*.

Sp. 10. *O. exilis*. *Niger, antennarum scapo ore pedibusque testaceis, abdominis segmento 2 basi rufo-piceo, areola cubitali 2 brevi apice attenuata, fem.* (Long.  $\frac{3}{4}$  lin.)

Hic iterum similis *O. tacito* et *parvulo*: antennæ, corpore parum longiores 26-articulatæ, articulis 2 prioribus tantum testaceis: metathorax medio lævigatus nitens: pedes testacei, coxis posticis basi tarsis apice fuscis: areola cubitalis 2 limes anterior interiore vix longior: antennarum articuli breviores quam *O. parvulo*.

EE. *Mesothoracis dorsum foveola punctiformi impressum ante basin scutelli.*

F. *Os clausum.*

Sp. 11. *O. pallipes*. *Niger, antennarum basi ore pedibusque testaceis, fem. terebra subexerta.* (Long.  $\frac{3}{4}$ —1 lin.)

*O. pallipes.* *Wesm. Monogr.* 118. No. 2.

Antennæ basi latius obscure rufescunt in nostro.

*Habitat* mas—prope Londinum lectus *F. Walker*.

*Var. β.* Abdominis segmento 3 rufo-piceo.

Sp. 12. *O. analis*. *Niger, antennarum scapo ore pedibusque testaceis, posticorum tibiis apice tarsisque fuscis, abdomine medio fusco, apice rufo, terebra exerta brevissima, fem.* (Long.  $1\frac{1}{4}$  lin.)

*O. analis.* *Wesm. Monogr.* 130 No. 13.

*Habitat* in Anglia semel lectus, in Hibernia boreali iterum.

FF. *Os patulum.*

Sp. 13. *O. instabilis.* *Niger, antennarum basi ore pedibusque testaceis, metathorace lœvi nitido; fem. coxis posticis basi fuscis, terebra  $\frac{1}{4}$  abdominis longitudine.* (Long. 1 lin.)

*O. instabilis.* *Wesm. Monogr. 126. No. 9.*

*Obs.*—In nostris abdominis segmentum 2 medio læve nitens: alæ albido-hyalinæ: nervus recurrens in areolam cubitalem 2 longe evectus: tarsorum articulus unguicularis *feminis* incrassatus.

*Habitat* Hiberniam borealem in nemoribus at infrequens.

Sp. 14. *O. crassipes.* *Niger, mandibulis pedibusque crassis testaceis, coxis trochanteribus femorumque margine supero et infero nigris, stigmatate elliptico; fem. terebra  $\frac{1}{4}$  abdominis longitudine.* (Long. 1 lin.)

*O. crassipes.* *Wesm. Monogr. 127. No. 10.*

*Habitat* in Hibernia boreali semel atque iterum lectus.

Sp. 15. *O. sævus.* *Niger, antennarum scapo ore pedibusque testaceis, nervo recurrente subinterstitiali, metathorace ruguloso; fem. terebra  $\frac{1}{4}$  abdominis longitudine.* (Long. corp.  $1\frac{1}{3}$ ; alar.  $3\frac{1}{2}$  lin.)

*O. instabili* major, antennæ longiores, alæ multo ampliores, areola radialis longior, nervi recurrentis insertio fere interstitialis: antennæ corpore longiores, articulis *mas* 34, *fem.* 29, duobus interioribus testaceis: clypeus et mandibulæ testaceæ, hæ basi non excisæ: metathorax abdominisque segmentum 1 rugulosi, hoc validum basi bicarinatum: alæ hyalinæ, squamulis testaceis, nervis et stigmatate fuscis: stigma tenuissimum lineari lanceolatum, cubitum in triente prima excipiens: areola radialis in apicem alæ effusa, cubitalis 2 sat longa, apice parum attenuata, nervus recurrens in alis posticis manifestus.

*Habitat* per Ebudes insulas *mas* et *femina* lecti Augusto mense,—*feminum* Damnoniensem misit *F. Walker.*

Sp. 16. *O. celsus.* *Niger, antennarum scapo ore pedibusque testaceis, metathorace ruguloso, areola cubitali 2 elongata æquilata, mas.* (Long.  $1-1\frac{1}{4}$  lin.)

Antennæ corpore longiores, 33—36-articulatæ: alæ amplæ glauco-hyalinæ, squamulis testaceis, stigmatate nervisque fuscis: *E.*

terebra *feminæ* discrimen quale petendum sit ignotum: *mas* præcedenti simillimus, nervi recurrentis insertione areolaque cubitali longiore nec apice attenuata differt. *O. cingulato*, *mas* areola radialis et stigma quam huic latiores sunt, metathoracis abdominisque segmenti 1 sculptura crassior.

Sp. 17. *O. vindex*. *Niger*, *antennarum scapo ore pedibusque testaceis, areola cubitali 2 perbrevis, mas*. (Long.  $1\frac{1}{2}$  lin.)

*O. sævo*, *mas* similis; diversus tamen videtur. Mandibulæ basi subtus dentato-excisæ: antennæ 37-articulatæ corpore sesquilingiores: metathorax medio lævigatus: areola cubitalis 2 limes anterior interiore vix longior, nervus recurrens ab illa exceptus. Thorax acu perforatus, ideo situs in hac sectione (E E.) incertus.

*Habitat* in Hibernia boreali semel lectus.

Sp. 18. *O. maculipes*. *Niger*, *antennarum scapo ore pedibus abdominis segmento 2 et sequentibus rufo-testaceis, tibiis posticis apice fuscis, mas abdomine postice fusco, fem. terebra exerta brevissima*. (Long.  $\frac{3}{4}$ —1 lin.)

*O. maculipes*. *Wesm. Monogr.* 128. No. 11.

*Obs.*—Exemplaria Belgica. *O. cingulato* majora erant, nostra vero minora.

*Habitat*—*marem feminamque* cepi Maio mense in Salice Hiberniæ borealis, *fem.* prope Senanum Augusto; alteram eamque minimam ex Anglia misit *F. Walker*.

Sp. 19. *O. cingulatus*. *Niger*, *antennarum basi ore pedibusque testaceis, abdominis segmento 2 et sequentibus testaceis fusco-cingulatis, fem. terebra exerta brevissima*. (Long. 1 lin.)

*O. cingulatus*. *Wesm. Monogr.* 120. No. 3.

*Var. β.*—Abdominis segmentis posterioribus totis fuscis.

*Habitat* in nemoribus Angliæ, Hiberniæ, passim frequens.

DD. *Nervus recurrens in areolam cubitalem 1 rejectus, aut interstitialis.*

*Conferendus* *O. sævus*, No. 15 ante; *Rogas braconius*, ante, p. 57. No. 14.



Sp. 20. *O. irregularis*. *Niger*, antennarum basi ore pedibusque testaceis, abdominis segmento 2 rufo-piceo, fem. terebra exerta brevissima. (Long. vix 1 lin.)

*O. irregularis*. *Wesm. Monogr.* 132. No. 15.

*Add.*—Thoracis dorsum puncto antescutellari impressum, ut in proxime præcedentibus: abdominis segmentum 2 basi utrinque obsolete rugulosum.

*Habitat* Angliam, Hiberniam, passim frequens.

CC. *Pleuræ sulco medio crenato vel rugoso.*<sup>b</sup>

D. *Nervus recurrens evectus.*

E. *Os clausum.*

Sp. 21. *O. leptostigma*. *Niger*, antennarum scapo ore pedibus abdominis segmento 2 et sequentibus testaceis, stigmati lineari longissimo, terebra exerta brevissima, fem. (Long. 1—1 $\frac{1}{4}$  lin.)

*O. leptostigma*. *Wesm. Monogr.* 138. No. 20.

*Habitat*—semel tantum lectus, et cum *O. cingulato* diu commixtus, quare de loco dubius sum.

Sp. 22. *O. parvulus*. *Niger*, ore pedibusque testaceis, coxis posticis fuscis, mas oris regione et antennarum basi testaceis, fem. terebra exerta brevissima. (Long.  $\frac{1}{2}$ — $\frac{5}{4}$  lin.)

*O. parvulus*. *Wesm. Monogr.* 139. No. 21.

*Var. β.*—Abdominis segmento 2 basi rufescente.

*Add.*—Mesothoracis dorsum lævissimum foveolâ nullâ præ scutello.

*Habitat*—mas semel lectus et cum Sp. 5, diutius commixtus.

EE. *Os patulum.*

F. *Mesothoracis dorsum lævissimum.*

Sp. 23. *O. docilis*. *Niger*, antennarum scapo ore pedibus abdominisque segmento 2 antice testaceis, mas. (Long. vix 1 lin.)

Antennæ corpore longiores, articulis 31, duobus interioribus testaceis: facies carinata: clypeus mandibulæ testaceæ, hæ basi

<sup>b</sup> Sulcus ille supra coxas medias oblique ductus epimeron ab episterno discernit.

subtus excisæ: genæ apice, prothorax, suturæque thoracis laterales rufo-piceæ: metathorax abdominisque segmentum 1 rugulosa, hoc basi piceum: alæ hyalinæ stigmatе nervisque fuscis: stigma latius quam Sp. 25, attenuato-trigonam, cubiti abscissam interiorem opprimens: areola cubitalis 2 quam illi longior, extrorsum parum attenuata: postica disci clausa: nervi recurrentis in alis posticis vestigium nullum.

*Habitat* prope ripas Senani autumnò semel lectus.

FF. *Mesothoracis dorsum foveola antescutellari impressum, sulcis humeralibus inchoatis tantum.*

*Conferendus* O. reconditor, No. 29 post.

Sp. 24. O. æthiops. *Niger, mandibulis rufis, pedibus piceis, femoribus anticis apice et tibiærum basi dilutiùs, mas. (Long.  $\frac{4}{5}$  lin.)*

Antennæ corporis longitudine 21-articulatæ nigræ: palpi breves fuscì: metathorax medio lævis nitens: abdominis segmentum 1 sublineare punctulatum, reliqua lævissima: alæ hyalinæ, stigmatе nervisque fuscis: stigma angustum fere lineare: areola radialis ante apicem alæ clausa, cubitalis 2 longa vix apice attenuata, postica disci haud perfecte clausa: nervi recurrentis vestigium in alis posticis *O. pygmæatori, mas*, prima facie similis, differt sculptura, alis hyalinis, areola radiali strictiore, cubitali vero longiore.

Sp. 25. O. pactus. *Niger, antennarum scapo mandibulis pedibus abdominisque segmento 2 antice rufo-testaceis, fem. terebra subæxerta. (Long. 1 lin.)*

Antennæ corpore paulo longiores 29-articulatæ: metathorax abdominisque segmentum 1 rugosa, opaca, hoc basi utrinque carinatum: alarum stigma angustum lineari-lanceolatum: cubiti abscissa prima brevissima extricata: alæ latiores quam *O. spreti* (cujus simillimæ,) et areola cubitalis 2 minus attenuata: nervi recurrentis in alis posticis vestigium nullum.

*Habitat* prioribus olim commixtus.

Sp. 26. O. æmulus. *Niger antennarum basi late ore pedibus abdominisque segmento 2 antice testaceis terebra æxerta brevi, fem. (Long. 1 lin.)*

Antennæ graciles corpore longiores 27-articulatæ testacæ apice fuscæ: oris rima tenuis: clypeus et mandibulæ testacæ:

metathorax subtiliter rugulosus: pleuræ sulco tenui in fundo crenulato: abdominis segmentum 1 lineare rugulosum, 2 testaceum, posteriora fusca: terebra fere  $\frac{1}{4}$  abdominis longitudine (annon casu longius protrusa?) pedes toti flavo-testacei: alæ quales *O. pallipedi*, antennarum articuli longiusculi etiam hujus affinitatem innuunt, etsi os non absolute clausum et sulcus pleurarum crenulatus diversum vindicant.

*Habitat* ———? Unicum modo vidi.

Sp. 27. *O. polyzonius*. *Niger*, antennarum scapo facie orbita pedibusque testaceis, abdominis segmento 2 et sequentibus testaceis fusco cingulatis, areola cubitali 2 latiuscula, terebra subexerta, fem. (Long.  $1\frac{1}{4}$  lin.)

*O. polyzonius*. *Wesm. Monogr.* 136. No. 18.

*Habitat* in Anglia, semel lectus.

Sp. 28. *O. nitidulator*. *Niger*, antennarum scapo facie orbita thoracis lineis 4 dorsalibus scutello pedibus abdominisque subcircularis segmento 2 antice rufis, mas. (Long.  $1\frac{3}{4}$  lin.)

*Bracon nitidulator*. *N. ab. E. Monogr.* 56. No. 11.

Caput rufum, vertice medio nigro, linea fusca clypei basin cingente: antennæ corpore parum longiores 34-articulatæ articulis 2 interioribus rufis: thoracis lineæ intermediæ postice inter se antice cum exterioribus connexæ: metathorax abdominisque segmentum 1 crasse rugosa, hoc late obconicum: pedes testacei: alæ obscure hyalinæ, squamulis testaceis, nervis stigmatæque fuscis; stigma attenuato-trigonum cubitum paulo præ medio excipit: areola radialis ante apicem alæ acute clausa, cubitalis 2 sat longa apice attenuata: alæ posticæ latiusculæ nervo recurrente manifesto.

*Habitat* in Salicetis Hiberniæ borealis mihi semel lectus.

F. F. *Mesothoracis sulci plus minusve distincti.*

Sp. 29. *O. reconditor*. *Niger*, antennarum basi palpis pedibusque testaceis, mandibulis (mas clypeo) rufo-testaceis, fem. abdomine subcirculari, terebra recondita. (Long.  $1-1\frac{1}{2}$  lin.)

*O. reconditor*. *Wesm. Monogr.* 134. No. 17.

Exemplaria quæ *F. Walker* prope Londinum legit pertinent *Var. 3*. His præterea incisuræ posteriores abdominis pallido micant, fem.

venter anusque flavo-pallidi : pedes toti silacci aut pallide-estacei, coxis fere albidis : alæ latæ hyalinæ squamulis flavidis, nervis stigmatæque fuscis : hoc attenuato-trigonum cubitum paulo præ medio excipit ; cubiti abscissa 1 brevis extricata ; areola cubitalis 2 brevis apice attenuata : thoracis sulci humerales læves postice in medio dorsi evanescent, linea media præ scutello profundius impressa antrorsum evanescit.

*Var. 1.*—Abdominis segmento 2 plus minus rufo-testaceo, *mas* et *fem.*

*Var. 2.* ut *Var. 1.*—Sed prothorace testaceo, *mas.*

*Var. 3.* ut *Var. 1.*—Sed facie orbitisque rufo-testaceis, *fem.*

*Sp. 30. O. truncatus.* *Niger, antennarum scapo ore pedibusque testaceis, mesothoracis humeris truncatis, fem. abdomine subcirculari, terebra exerta brevissima.* (Long.  $1\frac{1}{2}$  lin.)

*O. truncatus.* *Wesm. Monogr. 137. No. 19.*

*Habitat* prope Londinum et Vindisoram etiam in Insula Vecti lectus Junio—Septembre. *F. Walker.*

*Sp. 31. O. bajulus.* *Niger, mandibulis pedibusque rufis, coxis nigris, scutello rugoso, mas.* (Long.  $1\frac{1}{4}$  lin.)

*Niger nitidus :* facies punctulata subcarinata : palpi fusci : antennæ (mutilatæ) nigræ pedicello piceo : mesothoracis sulci tenues ante scutellum acute concurrunt : scutellum gibbum basi lævigatum : metathorax rugoso-punctatus : abdominis segmentum 1 late obconicum concinne striatum, reliqua lævissima : alæ hyalinæ squamulis piceis, nervis stigmatæque fuscis ; stigma elongatum tenuissimum cubitum intra primam trientem excipit, areola radialis oblonga apicem alæ non attingit, cubitalis 2 elongata extimam æquiparans, apice æquilata : nervi recurrentis vestigium in alis posticis.

*Habitat*—*maris*' unici reliquias valde læsas in Sylvâ Regia prope Hantoniam lecti dedit *F. Walker.*

*Sp. 32. O. rudis.* *Niger, ore orbita abdominis segmento 2 antice pedibusque rufis, facie et thoracis dorso scabriculis, fem. terebra recondita.* (Long. 1 lin.)

*O. rudis.* *Wesm. Monogr. 141. No. 23.*

*Obs.*—Propter puncturum reliqui capitis occiput hujus læve superne

sat definitum extat, ut in *Rogadibus* e subgenere 9<sup>o</sup>, sed characteres vere *Opii*.

*Habitat* prope Londinum, lectus *F. Walker*.

Sp. 33. *O. cæsus*. *Niger*, mandibulis pedibusque testaceis, femoribus posticis tibiisque apice fuscis, abdominis segmento 2 scabriculo, fem. terebra subævarta. (Long.  $\frac{5}{4}$ —1 lin.)

*Niger* parum nitens vage punctulatus et pubescens : os late patulum, facies subcarinata ; antennæ corporis fere longitudine (*mas* longiores) 21—24-articulatæ : mesothoracis sulci parum discreti, punctulati, postice non concurrentes : humeri subangulati : pleurarum sulcus late rugosus : metathorax rugulosus : abdomen fem. late ovatum subdepressum, *mas* angustius ; segmentum 1 breve latè obconicum, gibbum rugulosum, basi abrupte bicarinatum, 2 latè scabriculum, basi utrinque oblique impressum, impressionibus in arcum concurrentibus : pedes longi testacei ; femora posteriora apice, tibiæ apice aut fere totæ cum tarsis fusci ; rarius pedes toti fere testacei : alæ hyalinæ, squamulis piceis, nervis stignateque fuscis ; stigma angustissimum ; areola cubitalis 2 apice vix attenuata : alæ posticæ angustæ nervi recurrentis nullo vestigio.

*Habitat* in pratis humidis Angliæ, Hiberniæ, minus frequens.

DD. *Nervus recurrens rejectus aut interstitialis*.

*Conferendus* *O. rudis*, No. 32 ante, etiam e Subgenere 9<sup>o</sup>. *Rogadum*, *R. lanceolator*, ante, p. 58. No. 16.

Sp. 34. *O. comatus*. *Niger*, antennarum basi late ore orbita thoracis lituris dorsalibus scutello pedibusque testaceis, fem. terebra subævarta. (Long.  $1\frac{1}{4}$  lin.)

*O. comatus*. *Wesm. Monogr.* 145. No. 26.

Caput sordide testaceum, vertice medio late et occipite fuscis : oris rima fere semicircularis : palpi longi pallidi : antennæ *feminæ* corporis fere longitudine, 23-articulatæ, articulo 3 longo, testacæ articulis apice fusco-punctatis exterioribus fuscis ; *mas* longiores graciliores latiùs infuscatæ : thoracis dorsum lineis 2 testaceis postice in lituram confusis, sulcis subtilissime crenulatis aut punctatis ante scutellum concurrentibus : scutellum sutura porcata

discretum, apice testaceum : metathorax niger rugoso-reticulatus : abdomen obovatum subdepressum segmento 1 longiusculo obconico, ruguloso, medio subcarinato : 2 pone medium stria transversa obsolete bipartitum et ibidem sæpe testaceo signatum, basi nonnunquam substriatum ; reliqua lævissima nigra : alæ obscure hyalinæ, squamulis pallide testaceis, nervis subfuscis, stigma lanceolatum fusco-testaceum, medio fere cubitum excipiens, nervus recurrens vix rejectus : areola radialis alæ apicem attingit, cubitalis 2 extrorsum vix angustata, postica disci subincompleta : nervus recurrens in alis posticis manifestus.

*Obs.*—Ambigit hic si ullus alter in ipsis finibus *Opiorum* et *Rogadum* conterminis.

*Habitat* in lucis umbrosis Angliæ, Hiberniæ rariûs.

Sp. 35. *O. rufipes*. *Niger*, antennarum scapo ore pedibus abdominisque segmento 2 antice rufis, cubito e medio stigmatate prodeunte, fem. terebra recondita. (Long. 1—1 $\frac{5}{4}$  lin.)

*O. rupides*. *Wesm. Monogr.* 147. No. 28.

*Var. β.*—Abdomine toto nigro.

*Habitat* in Hibernia boreali rarissime,—feminam ex Anglia misit etiam *F. Walker*.

Sp. 36. *O. cælatus*. *Niger*, antennarum scapo subtus mandibulis pedibusque testaceis, posticorum tibiis apice tarsisque fuscis, facie thoraceque latè rugosis, stigmatate lineari attenuato, mas. (Long. 2 lin.)

Caput oblatum punctatum, occipite lævi, facie rugulosa subcarinata : oris rima ampla fere semicircularis : palpi longi pallidi : antennæ corpore multo longiores, mutilatæ at supersunt articuli 40, duo interiores subtus rufescunt : thorax solito longior, confertim punctatus subopacus, mesothoracis lobis humeralibus medio lævigatis, intermedio vage punctato : abdomen oblongum, segmento 1 longo lineari subtiliter ruguloso, reliquis lævissimis : alæ hyalinæ, squamulis rufo-testaceis, nervis fuscis, stigmatate fusco-testaceo angusto lineari, cubitum in triente prima excipiente ; areola cubitalis 2 apice non attenuata, nervus recurrens insigniter rejectus : nervus recurrens in alis posticis manifestus.

*Habitat*—marem unicum ex Anglia mecum communicavit benevole *Rev. G. T. Rudd*.

BB. *Areola cubitalis 2 limes interior æqualis.*

C. *Cubitus ultra medium stigmatis crassi exceptus;—os patulum.*

Sp. 37. *O. caffer. Niger nitidus, tibiis basi piceis, alis obscuris, cubito versus apicem evanescente, fem. terebra  $\frac{1}{4}$  abdominis longitudine. (Long.  $1\frac{1}{3}$  lin.)*

*O. caffer. Wesm. Monogr. 150. No. 30.*

*Habitat prope Londinum lectus, mas et fem. F. Walker.*

Sp. 38. *O. fulgidus. Rufus, antennis metathorace pectore abdominis segmento 1 et sequentium cingulis nigris, alis fuscis, mas. (Long.  $1\frac{2}{3}$  lin.)*

Statura hujus crassa: caput rufum, palpi picei, antennæ nigræ, articulis 2 baseos subtus piceis, mutilatæ at supersunt articuli 28 breves (ideoque plurimi forent integris), mesothoracis dorsum rufum, sulcis impunctatis in medio evanescentibus et foveola præ scutello: pleuræ rufo-piceæ, sulco profunde crenato: scutellum et metathorax nigri, hic crasse rugosus: abdomen ovato-orbiculatum, segmento 1 oblongo ruguloso: segmenta posteriora fusco-cingulata, cingulis confluentibus: alæ fuscæ, squamulis rufis; stigma obovato-lanceolatum, nervus recurrens fere interstitialis: alarum posticarum nervus recurrens incurvus areolam disci fere perficit.

*Habitat in Insula Vecti legit Junio mense F. Walker.*

CC. *Stigma angustius cubitum in medio, vel ante medium, excipiens.*

D. *Os patulum.*

Sp. 39. *O. placidus. Niger, antennarum scapo subtus ore abdominis segmento 2 antice pedibusque rufis, posticorum tibiis apice tarsisque fuscis, terebra recondita, fem. (Long.  $1\frac{1}{2}$  lin.)*

Antennæ corpore longiores 38-articulatæ, articulis 2 baseos subtus piceis: facies carinata: mesothoracis sulci inchoati tantum et foveola præ scutello: pleuræ sulco impunctato: metathorax subtiliter rugulosus: abdomen ovatum, segmento 1 striato, 2 basi rufo, apice et sequentibus piceis: pedes testacei, coxis basi nigris, tibiis posticis apice tarsis iisdem totis fuscis: alæ hyalinæ, squamulis testaceis, nervis fuscis, stigma longissimum lineare, fusco-testaceum, cubitum in triente prima excipiens.

*Habitat in Hibernia boreali semel lectus.*

DD. *Os clausum.*

F. *Pleuræ sulco levi.*

Sp. 40. *O. carbonarius.* Niger, antennarum scapo clypeo mandibulis pedibusque testaceis, fem. terebra recondita. (Long. 2—2½ lin.)

\*Bracon id. . N. ab E. Monogr. 58. No. 13.

*Opius procerus.* Wesm. Monogr. 156. No. 35.

Obs.—Nervi alarum in maribus crassi, feminis tenuiores.

Habitat in pratis Angliæ, Hiberniæ, passim autumnno frequens.

Sp. 41. *O. impressus.* Niger antennarum scapo clypeo mandibulis pedibusque testaceis, abdominis medio fusco-testaceo, fem. terebra recondita. (Long. 2 lin.)

*O. impressus.* Wesm. Monogr. 157. No. 36.

*O. carbonarii* omnia fere, modo abdominis segmentum 2 apice et tria sequentia fusco-testacea sunt, cute molliori, quæ in exsiccatis late subsidit; tunc singula medio transversim impressa videntur margine undique elevato.

Habitat Hiberniam borealem et occidentalem, præcedente longe rarior;—marem ex Anglia misit F. Walker.

EE. *Pleuræ sulco crenato seu rugoso.*

Sp. 42. *O. Rusticus.* Niger, antennarum scapo clypeo mandibulis pedibusque testaceis, scutelli apice punctato, stigmati lineari cubitum ante medium excipiente, fem. terebra recondita. (Long. 1½ lin.)

*O. carbonarii* alæ et omnia fere sed pleuræ sulco late rugoso et statura minor; ab *O. Wesmaelii* et proxime affinis differt, antennis longioribus, thoracis sculptura leviore, stigmati longiore, cubiti insertionem et areola radiali paulo longiore.

Habitat in Brassica Rapa Hiberniæ borealis autumnno lectus rariùs.

Sp. 43. *O. scabriculus.* Niger, mandibulis trochanterum apice tibiis femoribusque rufis, his superne tarsisque fuscis, capite thoraceque late rugosis, fem. "terebra  $\frac{1}{8}$  abdominis longitudine." (Long. 1¾ lin.)

*O. scabriculus.* Wesm. Monogr. 154. No. 33.



*Obs.*—*Maris* segmenta abdominis 2, 3 et 4 singula ante apicem spinulas geminas subtilissimas albidas gerunt.

*Habitat*—*marem* unicum ex Anglia misit *F. Walker*.

Sp. 44. *O. Wesmaelii*. *Niger*, antennarum scapo subtus clypei apice mandibulis pedibusque testaceis, scutello rugoso, stigmatate lineari-lanceolato, maris nigro, feminae fusco, terebra recondita. (Long. vix 2 lin.)

*O. carbonarius*. *Wesm. Monogr.* 152. No. 32.

Areola radialis ab alae apice sat remota, oblongo-lanceolata; cubiti abscissa extrema recta vel apice lenissime inflexa.

*Habitat* in Salicetis Hiberniae borealis nec infrequens, Maio—Junio; ex Anglia misit etiam *F. Walker*.

Sp. 45. *O. sylvaticus*. *Niger*, antennarum scapo subtus mandibulis pedibusque testaceis, scutello rugoso, stigmatate lineari-lanceolato fusco-testaceo, fem. terebra recondita. (Long. vix 2 lin.)

*O. carbonarius*. *Wesm. Monogr.* 152. No. 32. (cum praecedente conjunctus, an jure?)

Praecedenti similis, facies et thorax confertiùs rugosi: discrimen certissimum e forma areolae radialis quae perpaulo longior est cubiti abscissâ extimâ levissime reflexâ seu postice concavâ: stigma semper fusco-testaceum.

*Habitat* Hiberniam borealem praecedente longe rariùs, — *marem* unicum ex Anglia misit *F. Walker*.

Sp. 46. *O. hæmorrhœus*. *Niger*, antennarum scapo clypeo mandibulis pedibus abdominisque dimidio auali rufo-testaceis, scutello rugoso, fem. terebra recondita. (Long. 2 lin.)  
Fig. a. b.

*O. carbonarius*, Var. 2. *Wesm. Monogr.*

*O. Wesmaelii* affinis, major, latior: scutellum totum rugosum: alae fere quales *O. sylvatico*, stigmatate obscure testaceo. Abdominis segmentum 2 apice sequentia tota rufo-testacea.

Var.  $\beta$ .—Abdominis segmento 2 apice et sequentibus rufo-piceis nigro-cingulatis, stigmatate fusco.

*Habitat*—*marem feminasque* prope Londinum lectos misit *F. Walker*.  
—*feminam* Var.  $\beta$ . cepi ipse in Salice Hiberniae borealis.

Sp. 47. *O. blandus*. *Niger*, *antennarum scapo subtus, ore pedibusque rufis, tibiis posticis apice fuscis, scutelli apice punctato, fem. capite rufo, vertice medio nigro, abdominis segmento 2 rufo, posterioribus fuscis, fem. orbita genis abdominisque segmento 2 et sequentibus rufo-piceis, his nigro-cingulatis, terebra recondito.* (Long. vix 2 lin.)

Caput *maris* latissimum, rufum, vertice medio et occipite nigris; facies punctata medio carinata, litura fusca utrinque prope clypeum: palpi breviusculi testacei: antennæ vix corporis longitudine 41-articulatæ nigræ vel piceæ: thoracis dorsum nitidum sulcis humeralibus inchoatis et foveola ante scutellum; hoc apice crasse punctatum: pleuræ sulco lato transversim porcato: metathorax rugulosus medio lævior: abdomen oblongum segmento 1 basi perparum attenuato, ruguloso, carinula media antrorsum bifurca, 2 rufo, sequentibus sensim obscurioribus: pedes breves, femoribus validis, rufo-testacei, tibiis posticis apicis spatio brevi tarsis iisdem totis fuscis: alæ hyalinæ, squamulis testaceis, nervis fuscis, stigmatibus subfusco cubitum medio fere excipiente.—  
*Femina* minor colore obscurior, abdomine latiùs ovato.

*Habitat* in Salicetis Hiberniæ borealis mense Maio, *femina* semel, *mas* nonnisi rarissime lectus.

Sp. 48. *O. bicolor*. *Niger*, *antennarum scapo subtus ore pedibus abdominis segmento 2 et sequentibus rufis, fem. terebra recondita.* (Long.  $1\frac{1}{4}$  lin.)

*O. bicolor*. *Wesm. Monogr.* 151. No. 31.

*Habitat* Hiberniam borealem mihi semel lectus.

#### Subgen. II.—GNAPTODON.

*Palpi labiales 3-articulati. Terebra brevissima subulata deflexa: areola cubitalis 2 latior fere quam longior.*

*Bracon Microcephali, Spp. N. ab. E. Monogr.*

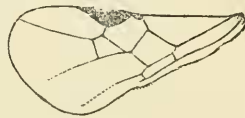
Sp. 49. *O. Gn. pumilio*. *Niger*, *ore antennarum basi pedibusque flavis, abdominis segmento 2 basi apiceque arcuatim impresso.* (Long.  $\frac{3}{4}$ —1 lin.)

*Bracon. pumilio. N. ab. E. Monogr.* 90. No. 51.

*Niger nitidus*: caput subtilissime punctulatum facie media levigata: mandibulæ parvæ a clypeo rima brevi distantes, flavo-testaceæ:

palpi flavi: antennæ corpore vix longiores articulis 21—23, quatuor aut quinque interioribus flavis: mesothoracis dorsum sulcis binis subtilissimis postice evanescentibus: metathorax et pleuræ læves: abdomen *fem.* ovatum convexum, segmento 1 obconico subtilissime rimuloso basi bicarinato; 2 lineâ transversâ arcuatâ in fundo punctatâ prope basin impressum, et alterâ in apice, utriusque sinu in basin abdominis obverso, pone illam subtiliter rimulosum, arcu anteo tumido lævi: venter carinato-compressus pallidus: terebra subexerta subulata deflexa, ut in *Leiophrontibus* nonnullis et *Euphoris*.—*Maris* abdomen angustius ovato-lanceolatum: pedes flavi unguibus fuscis: alæ (*fig. d.*) limpidae, squamulis flavis, stigmatibus fuscis, nervis expallidis: stigma ovato lanceolatum cubitum perpaulo præ medio excipit: areola radialis oblongo-lanceolata alæ apicem non attingit, cubitalis 2 brevis antorsum angustata et minor primâ, hæc apice summo nervum recurrentem excipit: nervi recurrentis vestigium in alis posticis.

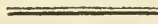
Fig. d.



*Variat mas* antennis nigris, articulis 2 baseos tantum subtus flavescens, coxis posticis femorum margine supero tibiis posticis tarsisque apice fuscis.

*Habitat* per Ebudes Insulas et Hiberniam in foliis *Betulæ albæ* at infrequens, mensibus, Julio et Augusto.

Explicit Genus *Opius*.



ART. XXVIII.—*Notes on various Insects.* By J. W. BOND.

1. *Combat of Ants.*

SIR,—I beg to call your attention to one of the most astonishing phenomena regarding insects that ever came under my notice. A relation of mine, Mr. R. Long, having employment near Hornsey church, in the summer of 1828, was attracted by the singular actions of some sawyers, who were at work at a short distance from the house in which he was staying. On reaching them, he found they were annoyed by an immense body of ants flying above their heads, numbers of which were incessantly falling on them. The saw-pit was